

EU Smart Borders

Operational Pilots



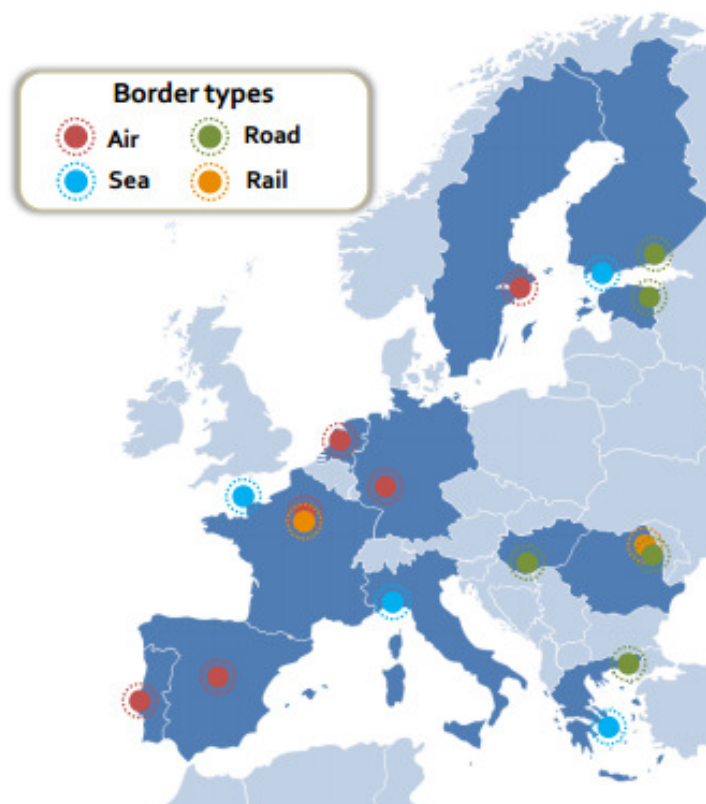
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PERFORMANCE CONFERENCE**
Evaluation and Performance of Biometric Technologies



May 3 – 5, 2016: Gaithersburg, MD

Smart Borders Pilot in a nutshell (March – September, 2015)

Scope	Air, sea and land borders crossing points (BCPs)
Member States	12 (DE, EE, EL, ES, FI, FR, HU, IT, NL, PT, RO, SE)
Border crossing points	18
Test cases	78 test variations
TCN travellers	58.000
Border guards involved	About 350
Biometrics	Fingerprints (FP), facial image (FI) and iris
Process accelerators	ABC gates, kiosks
Desk research	Spoofing, VIS and travel document number, web service



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Finland Pilot



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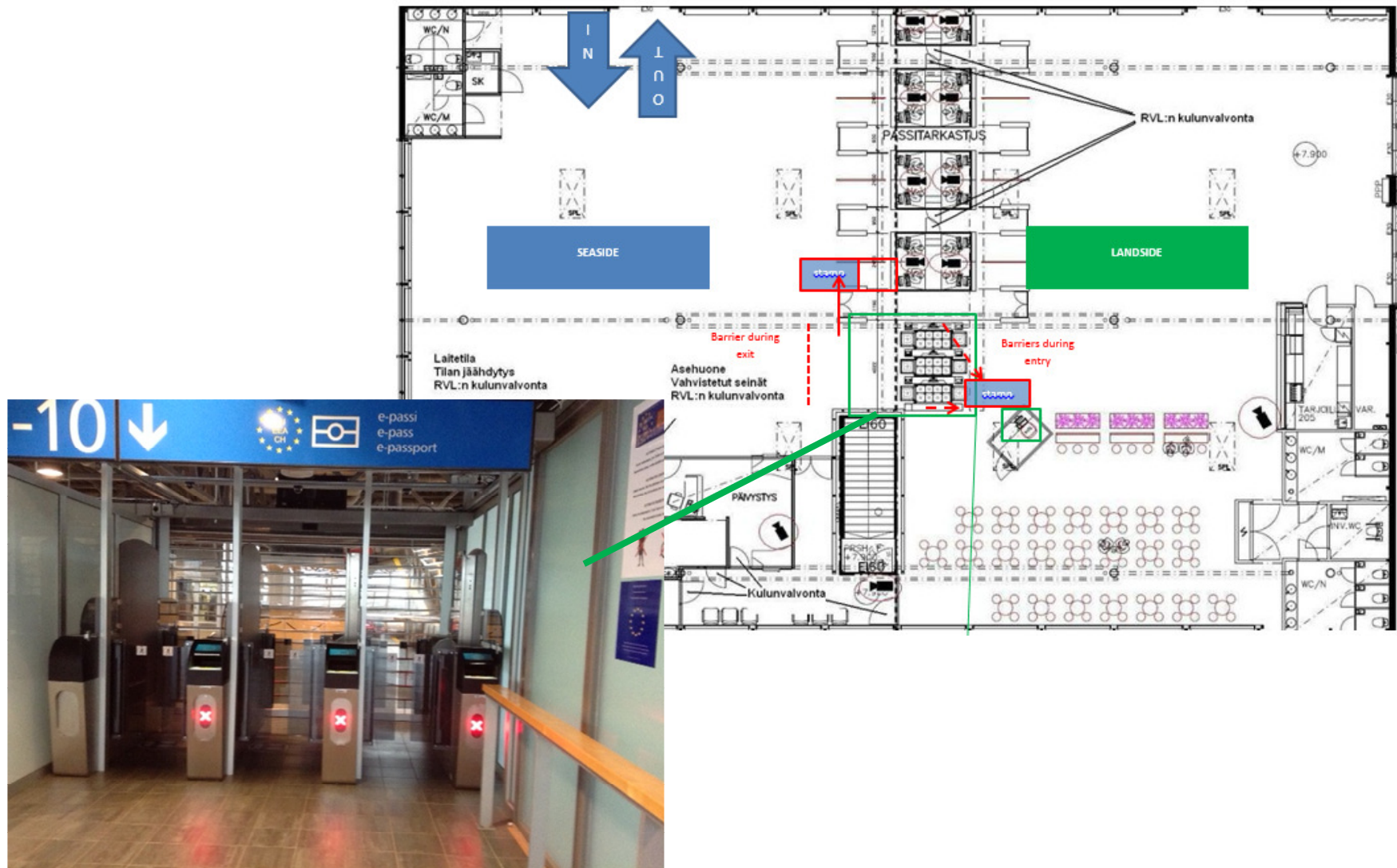
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The impetus for the pilot was the EC legal proposals on establishing the Entry-Exit System (EES) and the Registered Traveller Programme (RTP) and the amendments to the Schengen Borders Code (SBC) thereof. The main objectives of the pilot are:

1. To **test the practical and technical feasibility** of the processes and implementation foreseen in the so called Smart Borders package;
2. To **define the most feasible solution** to implement the above mentioned systems and ABC procedures based on them for to be implemented later;
3. To **contribute to the discussion on legislative proposals**, in particular as regards to the articles connected to the technical feasibility of the systems;
4. To **contribute to the national preparations** of the Smart Borders package in Finland.

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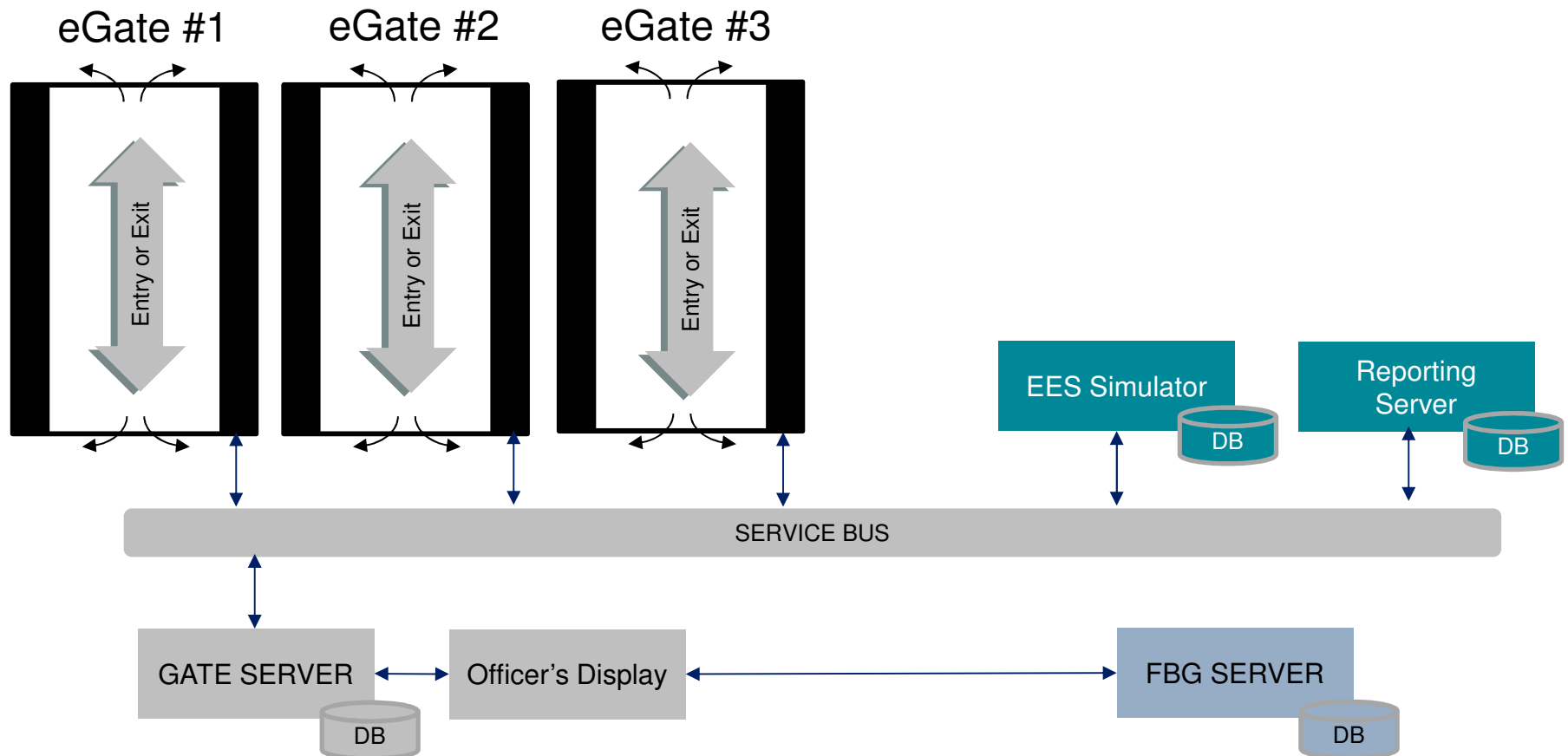
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Single Finger Livescan
for 1- and 2-print capture

4 Finger Livescan
for 4- and 8-print capture



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Identification

- Status
- Identify a TCN
- Verify a TCN
- Search identity
- Retrieve identity

Administration

- Record encounter
- Amend data
 - Extend RTP
 - Revoke RTP status
 - Update Allowed Number of Days

Enrolment

- Create enrolment
 - Pre-enroll
 - Full enroll
- Withdraw enrolment

Reporting

- Generate Notifications
- Request report
- Retrieve report
 - e.g. Overstayers

Authorization Enforcement

- Access to services based on role
- Access to response information based on role

Data Retention

- PII deleted after TBD days if Exit recorded; TBD days otherwise
- Transaction data (no PII) retained for business and operations monitoring and analysis

TCN – Third Country National
MS – Member State

EES – Entry Exit System
RTP – Registered Traveler Program

- Used in Pilot
- Not used in Pilot

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The Schengen Borders Code has no provisions on the recording of travellers' cross border movements into and out of the Schengen area.

As a general rule, third country nationals have the right to enter for a short stay of up to 90 days within any 180 day period.

Currently the stamping of the travel document indicating the dates of entry and exit is the sole method available to border guards and immigration authorities to calculate the duration of stay of third country nationals and to verify if someone is overstaying.

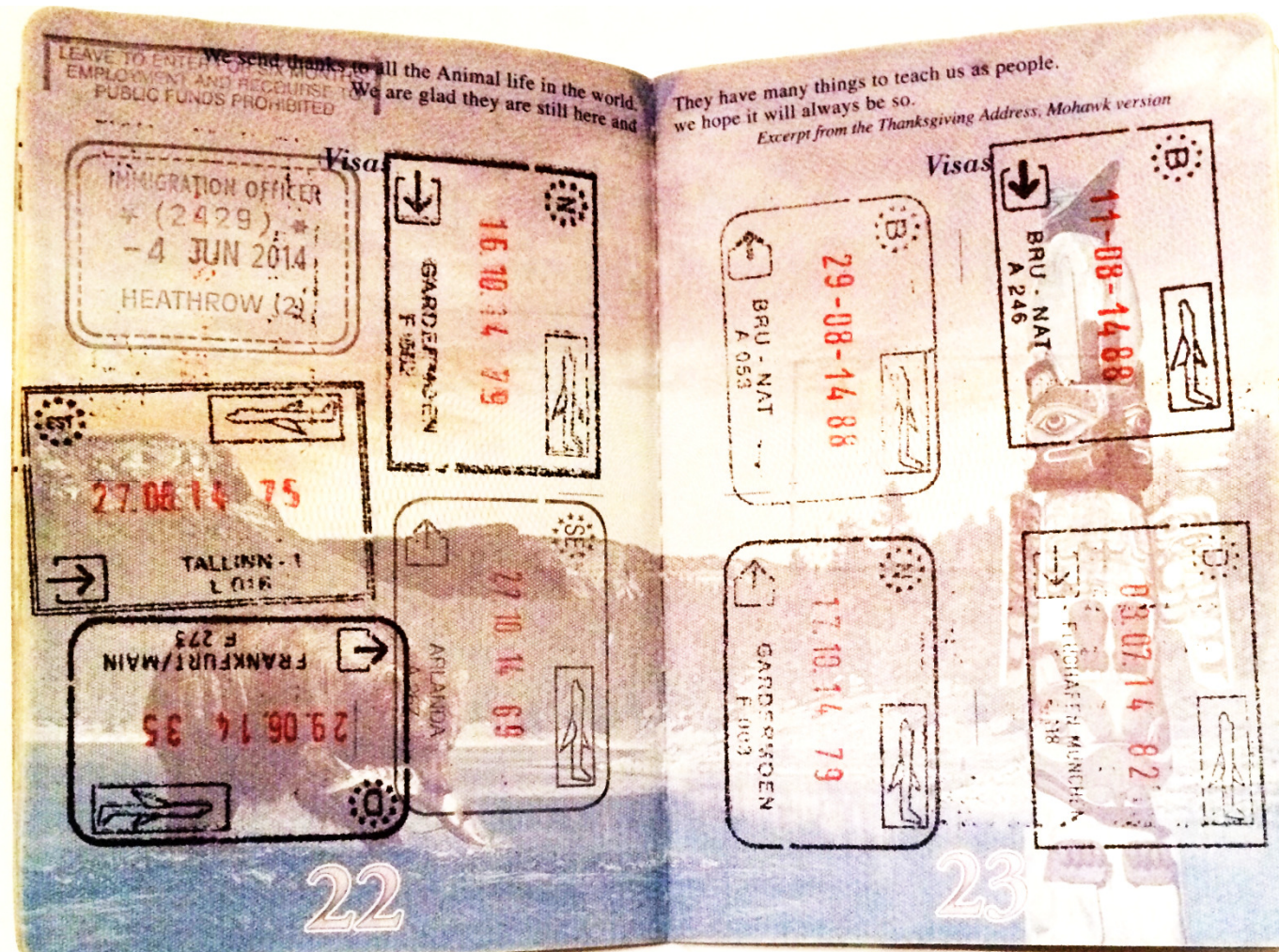
These stamps can be difficult to interpret: they may be unreadable or the result of counterfeiting. Similarly, it is difficult for consulates having to process visa applications to establish the lawfulness of previous visas on the basis of stamps present in the travel document. As a result, the whole procedure is considered error prone and not always systematically implemented.

from: REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL COM(2016) 194 final

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Transaction Detail Report

**TRANSACTION
COUNT**

**TRANSACTION
TIMING**

Passenger Processing	Transaction Count	End-To-End (sec)	To Decision (sec)
Total Number of Traveller Count	6107	6107	
Success Rate		100.00	
Successful Average		42	40
Fastest successful transaction		16	15
Slowest successful transaction		443	442
Successful 1st Quartile			
Successful 2nd Quartile		56	55
Successful 3rd Quartile		34	32
Successful 4th Quartile		101	100
Unsuccessful Median Average	0		
Slowest unsuccessful transaction			

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Fingerprint Transaction Detail Report

Processing Speed Detail

**CAPTURE
TIME**

Fingerprint Captured	Slowest Time (sec)	Average Time(sec)	Fastest Time (sec)	Total Number of Fingerprint Captured
1	85	13	3	688
2				0
4	119	19	8	977
8	116	28	12	398

Quality Assessment

**CAPTURE
QUALITY**

	Lowest Score	Highest Score	Average Score	Total Number of Fingerprint Captured
Left Index	5	1	1.87	352
Left Little	5	1	2.24	347
Left Middle	5	1	1.73	353
Left Ring	5	1	1.68	353
Left Thumb	2	2	2.00	1
Right Index	5	1	1.91	1699
Right Little	5	1	2.49	1030
Right Middle	5	1	1.79	1130
Right Ring	5	1	1.80	1223
Right Thumb	2	2	2.00	1

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video analysis

Number of fingerprints captured	Event	Transaction timestamp YYYY/MM/DD HH:MM	Transaction time end-to-end MM:SS
1	Fastest	2014/11/13 08:46	00:27
	Slowest	2014/11/05 09:19	01:55
4	Fastest	2014/11/02 09:26	00:34
	Slowest	2014/11/13 08:56	02:19
8	Fastest	2014/11/01 08:34	00:38
	Slowest	2014/11/01 09:22	02:37

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Encounter Info

E7DD6E8C-9074-4D72-A6C3-00828923DB88 , Finland

General Data

ID: A8253F03-8479-4188-
AAB5-D490260C0880

Entry Border Control
Point: Finland

Exit Border Control Point: Finland

Country of Departure:

Traveller:

Processing Data

Overstay False

Reference Objects

Visa

Change of Limit of Stay

Authority Responsible: BG

Grounds for Change

Dates

Date and Time of Entry

Date and Time of Exit 2014-11-06

Reason for Overstay:

Stay Duration Details:

Authorised Length of Stay (in days)	Limit of Stay Date	Original Limit of Stay Date	Last Change of Limit of Stay
90			

Related Exit:

Transaction ID	Transaction Type
a8253f03-8479-4188- aab5-d490260c0880	Exit

Approval

Step Description	Status	Date	Time
VIS Check			

Encounter Detail

Travel History

Entry/Exit Type	Transaction ID	Entry Border Point	Transaction Time	Overstay	Calculation of Stay (days)
Exit	a8253f03-8479-4188- aab5-d490260c0880	Finland	11/6/2014 3:45:46 PM	False	

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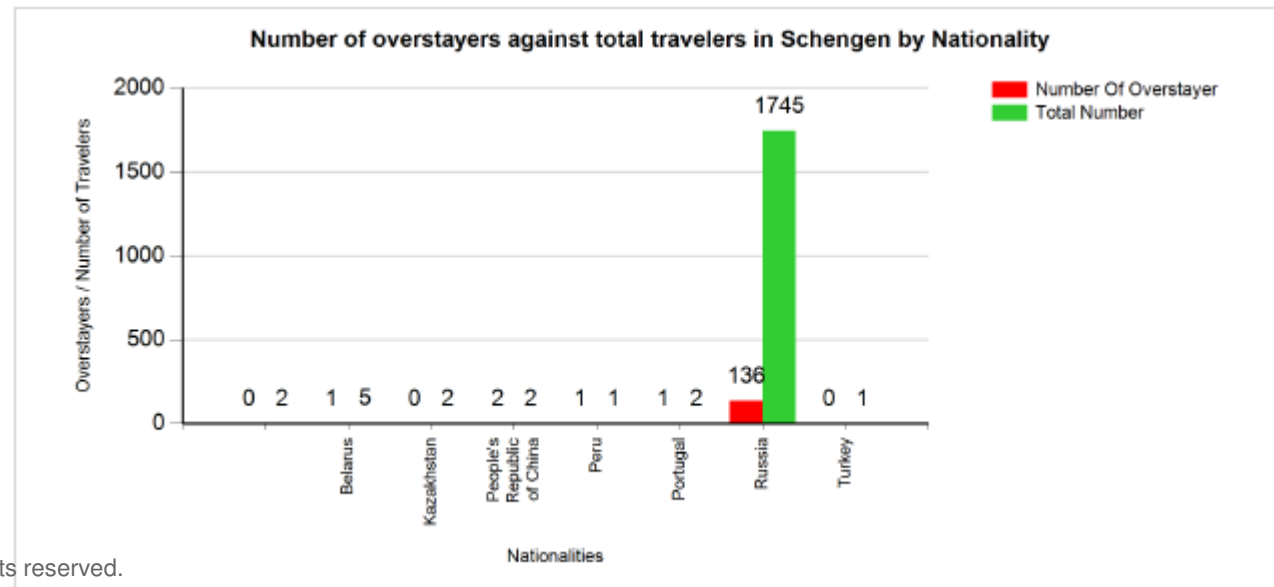
Number of overstayers against total travelers in Schengen by Nationality

Till Date: 07/09/2014

Entire Pilot

Nationality	Volume
Belarus	15
China	14
Georgia	1
Kazakhstan	5
Pakistan	1
Peru	1
Philippines	1
Portugal	15
Russia	6021
Turkey	2
Ukraine	2

Nationality	Number Of Overstayers	Total Number
	0	2
Belarus	1	5
Kazakhstan	0	2
People's Republic of China	2	2
Peru	1	1
Portugal	1	2
Russia	136	1745
Turkey	0	1



EU Smart Borders Summary

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 4 fingerprints (TC1) – at 11 border-crossing points, 8 FPs (TC2) – at 8 BCPs, 10 FPs (TC3) – at 6 BCPs





Air Frankfurt (DE) | Schiphol (NL) | Madrid (ES) | Charles de Gaulle (FR)

Sea Helsinki (FI) | Piraeus (EL) | Genoa (IT)

Land (road) Kipoi (EL) | Udvar (HU) | Vaalimaa (FI)

Land (train) Iași (RO)

Outcome: the pilot confirms that it is feasible to enrol fingerprints at all types of borders in various set-ups. However, in practice, enrolling four fingerprints is faster than enrolling eight or ten, although a higher number of fingerprints will deliver better accuracy for subsequent use. The quality of the fingerprints enrolled is generally fit for purpose. Enrolling fingerprints in controlled conditions is seen as the biometric identifier that is the least intrusive to travellers, according to both travellers' and border guards' feedback.

	Success / Quality	≥ 75%	≥ 50% - <75%	<50%	N/A
	Duration	< 30 s	≥ 30 s - <60 s	≥ 60 s	N/A
	Technology	Mature	Medium maturity	Low maturity	N/A
	Experience	≥ 65%	≥ 35% - <65%	<35%	N/A

Main findings

Success/quality

- The quality of fingerprint enrolment cannot be directly linked to the number of fingerprints enrolled;
- There are currently no certification standards for contactless scanners;
- When the success rate was below 30%, this was mainly due to set-up and technical constraints;
- Identification accuracy can reach around 99.3% based on performance predictions provided by a number of vendors and

4 Fingerprints				
				
	Success / Quality	Green	Green	Green
	Duration	Green	Green	Green
	Technology	Green	Green	Green
	Experience	Green	Green	Green
8 Fingerprints				
	Success / Quality	Green	Red	Green
	Duration	Green	Green	Green
	Technology	Green	Green	Green
	Experience	Green	Green	Green
10 Fingerprints				
	Success / Quality	Yellow	Red	Yellow
	Duration	Yellow	Yellow	Yellow
	Technology	Yellow	Yellow	Yellow
	Experience	Green	Green	Green

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Background



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April 6, 2016

Brussels, 6.4.2016
COM(2016) 194 final
2016/0106 (COD)

Proposal for a

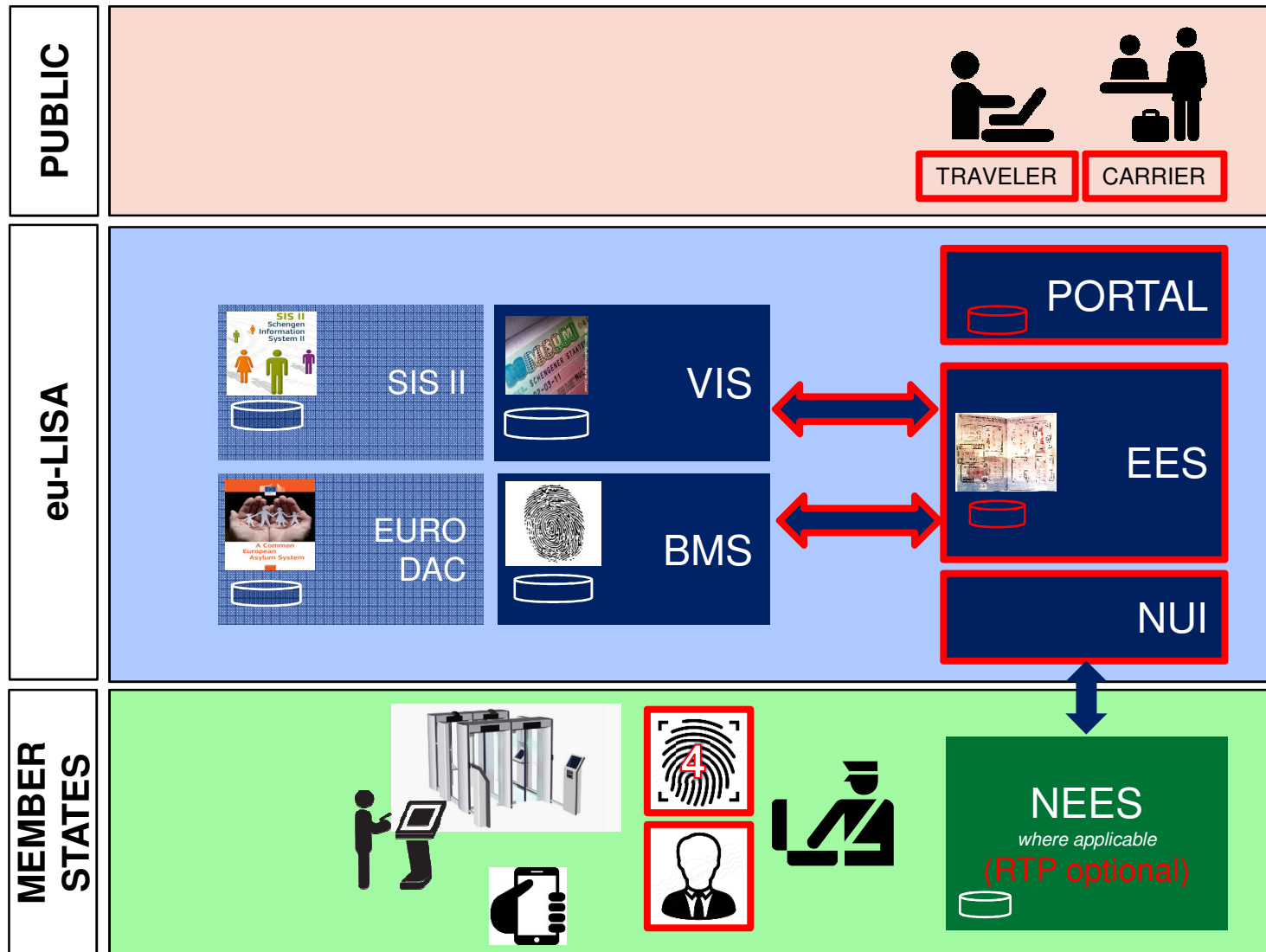
REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

establishing an Entry/Exit System (EES) to register entry and exit data and refusal of entry data of third country nationals crossing the external borders of the Member States of the European Union and determining the conditions for access to the EES for law enforcement purposes and

amending Regulation (EC) No 767/2008 and Regulation (EU) No 1077/2011

EU Smart Borders COM Strategy

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8 U.S. Code § 1365b - Biometric entry and exit data system

The entry and exit data system shall include a requirement for the collection of biometric exit data for all categories of individuals who are required to provide biometric entry data, regardless of the port of entry where such categories of individuals entered the United States.

...“registered traveler program” means any program designed to expedite the travel of previously screened and known travelers across the borders of the United States.¹

...incorporates available technologies, such as biometrics and e-passports, and security threat assessments to expedite the screening and processing of international travelers, including United States Citizens and residents, who enter and exit the United States.²

¹ 8 U.S. Code § 1365b ¶ (K) Expediting registered travelers across international borders (2) Definition

² 8 U.S. Code § 1365b ¶ (3) International registered traveler program (A) In general

<https://www.gpo.gov/fdsys/pkg/USCODE-2011-title8/pdf/USCODE-2011-title8-chap12-subchapII-partIX-sec1365b.pdf>

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8 U.S. Code § 235.1 Scope of examination

... **Application to lawfully enter the United States shall be made in person to an immigration officer** at a U.S. port-of-entry when the port is open for inspection, or as otherwise designated in this section. ¹

A person claiming U.S. citizenship must establish that fact to the examining officer's satisfaction and must present a U.S. passport if such passport is required under the provisions of 22 CFR part 53. ²

8 U.S. Code § 235.7 Automated inspection services

... **advance inspection and identification**, when the enrolled participant satisfies the conditions and requirements set fourth in this section, satisfies the reporting requirements of §235.1(a) ³

¹ 8 CFR § 235.1 Scope of examination (a) General

² 8 CFR § 235.1 Scope of examination (b) U.S. citizens

<https://www.gpo.gov/fdsys/pkg/CFR-2012-title8-vol1/pdf/CFR-2012-title8-vol1-part235.pdf>

³ 8 CFR §235.7 - Automated inspection services

<https://www.gpo.gov/fdsys/pkg/CFR-2015-title8-vol1/pdf/CFR-2015-title8-vol1-sec235-7.pdf>

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Further Reading



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In October 2014, the first stage was completed with the delivery of the [Technical Study](#) (see the [executive summary](#)) and [Costs Study](#) .

The testing phase took place in 12 countries in 18 air, sea and land border crossing points and involved nearly 58 000 third country national travelers and about 350 border guards. In November 2015, the testing phase carried out by [eu-LISA](#) was completed with the delivery of the [Smart Borders Pilot report on the technical conclusions](#) (see also the [executive summary of the report](#) and the [annexes to the technical report](#)).

On 6 April 2016, the Commission adopted a revised legislative proposal for Smart Borders. The revised legislative proposal for Smart Borders includes: a [Regulation for the establishment of an Entry/Exit System](#) (annex) and a [proposed amendment to the Schengen Borders Code to integrate the technical changes needed for the Entry/Exit System](#) (annex).

http://ec.europa.eu/dgs/home-affairs/what-we-do/policies/borders-and-visas/smart-borders/index_en.htm

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Thank You



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